FIG. 1

FIG.2A

x／y	1/16	-3/16	10/16	10/16	-3/16	1/16
1/16	1/256	-3/256	10/256	10/256	-3/256	1/256
-3/16	-3/256	9/256	-30/256	-30/256	9/256	-3/256
10/16	10/256	-30/256	100/256	100/256	-30/256	10/256
10/16	10/256	-30/256	100/256	100/256	-30/256	10/256
-3/16	-3/256	9/256	-30/256	-30/256	9/256	-3/256
1/16	1/256	-3/256	10/256	10/256	-3/256	1/256

First YH extraction filter F1

FIG.2B

x／y	1/8	3/8	3/8	1/8
1/8	1/64	3/64	3/64	1/64
3/8	3/64	9/64	9/64	3/64
3/8	3/64	9/64	9/64	3/64
1/8	1/64	3/64	3/64	1/64

Second YH extraction filter F2

FIG.3

FIG.4

$$
\begin{array}{|c|c|c|c|c|}
\hline
 & & -l & & \\
\hline
 & & -m & & \\
\hline
-l & -m & 4(l+m) & -m & -l \\
\hline
 & & -m & & \\
\hline
 & & -l & & \\
\hline
\end{array}
$$
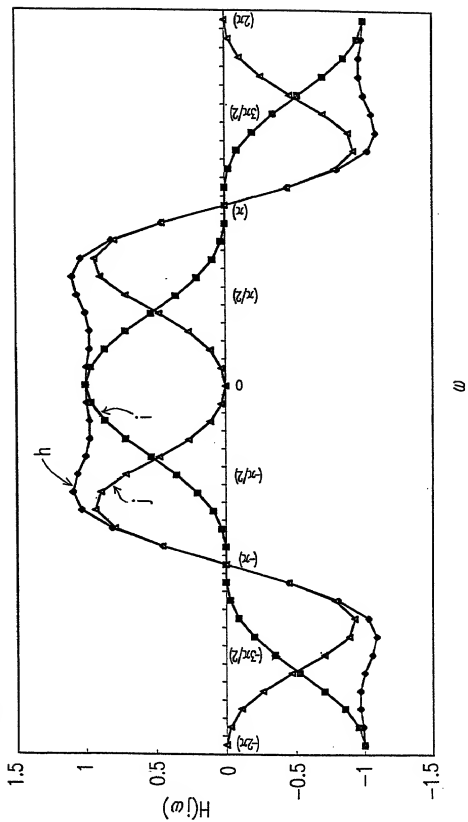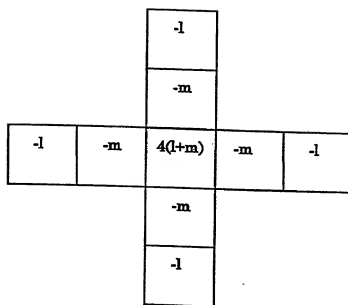
FIG.5A

y \ x	1/4	3/4	3/4	1/4
1/4	1/16	3/16	3/16	1/16
3/4	3/16	9/16	9/16	3/16
3/4	3/16	9/16	9/16	3/16
1/4	1/16	3/16	3/16	1/16

RB−interpolation filter

FIG.5B

y \ x	1/4	3/4	3/4	1/4
1/8	1/32	3/32	3/32	1/32
3/8	3/32	9/32	9/32	3/32
3/8	3/32	9/32	9/32	3/32
1/8	1/32	3/32	3/32	1/32

G−interpolation filter
(Operation in x−direction has priority
over operation in y−direction)

FIG.6

| -1 | 1 | 1 | -1 | (A) |

| -1 | 2 | -1 | (B) |

| -1 | 0 | 2 | 0 | -1 | (C) |

| -2 | 1 | 2 | 1 | -2 | (D) |

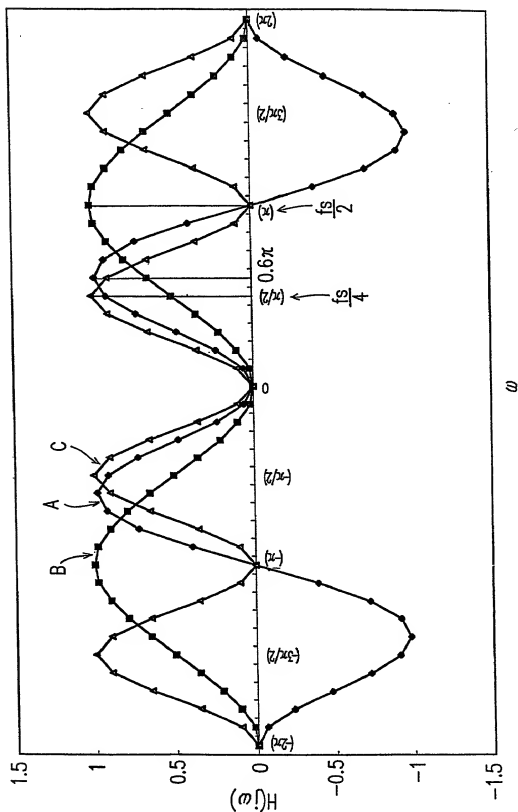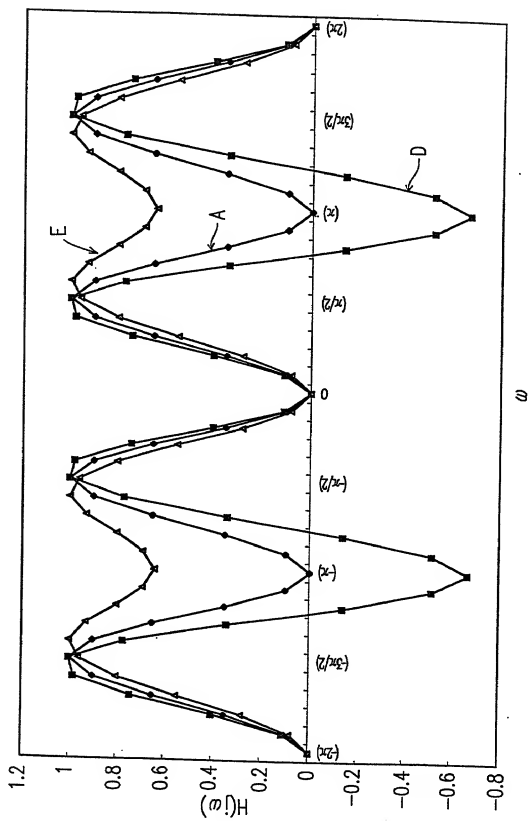| -1 | -1 | 4 | -1 | -1 | (E) |

| 1 | -5 | 4 | 4 | -5 | 1 | (F) |

| 1 | 3 | 3 | 1 | (G) |

One-dimensional filter

FIG.7

FIG.8

FIG.9

FIG. 10

FIG.11

FIG.12

ω

H(jω)

FIG.13

Light → | Low-pass filter | 101 → | Primary-color CCD area sensor (Bayer array) | 102 → | RGB interpolation section | 103 → | White balance adjustment section | 104 → | Gamma correction section | 105 → | Sharpening processing section | 106 → Image signal

100
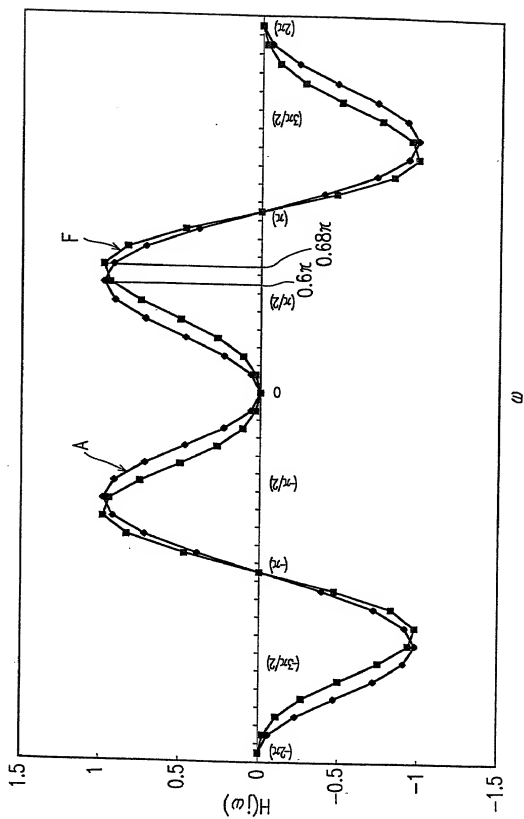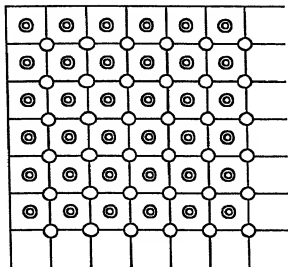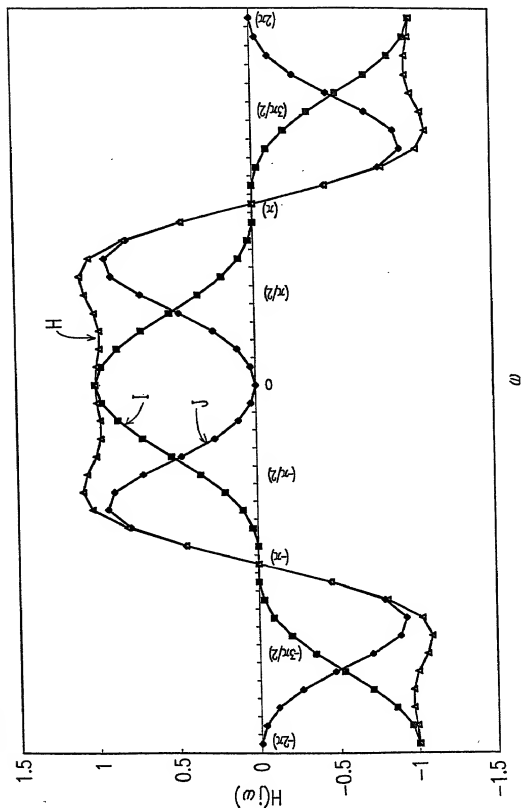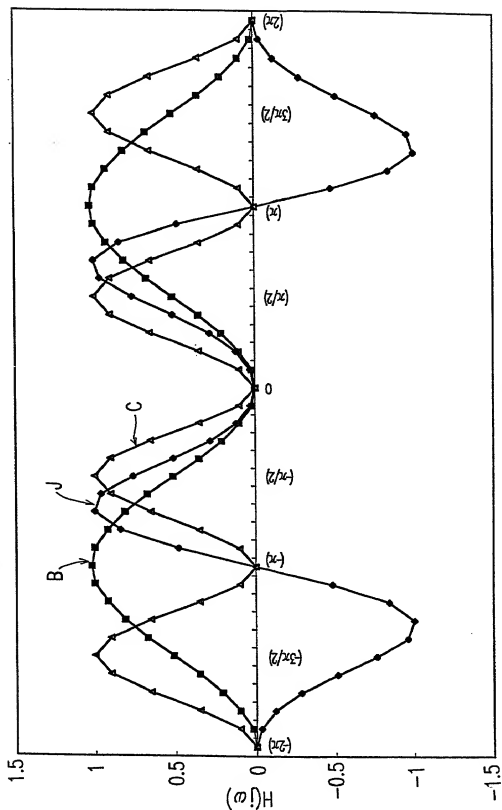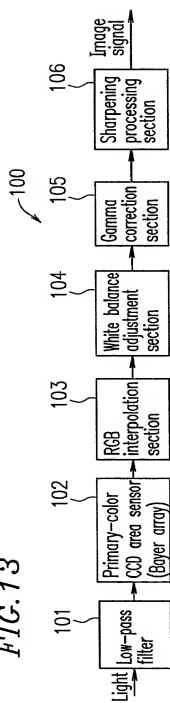
FIG.14

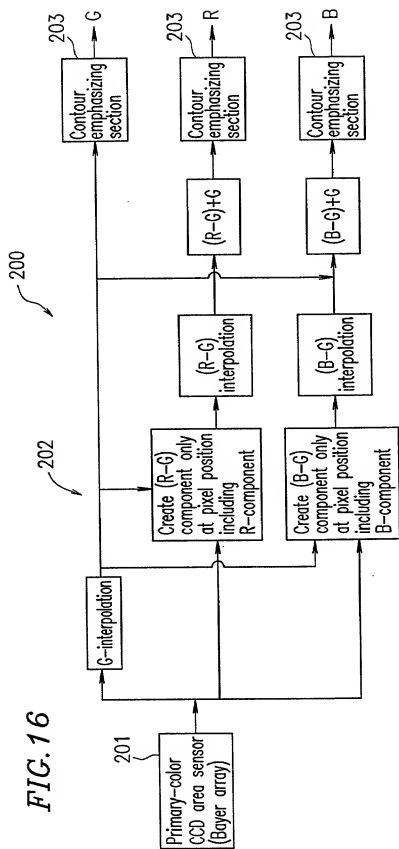|		Δx			
R	G	R	G	R	G
G	B	G	B	G	B
R	G	R	G	R	G
G	B	G	B	G	B
R	G	R	G	R	G
G	B	G	B	G	B

FIG.15

B1	G2	B3
G4	R5	G6
B7	G8	B9

FIG.16

FIG.17A

FIG.17B

FIG.18
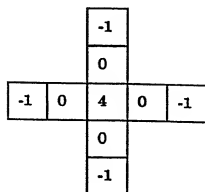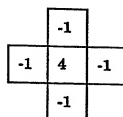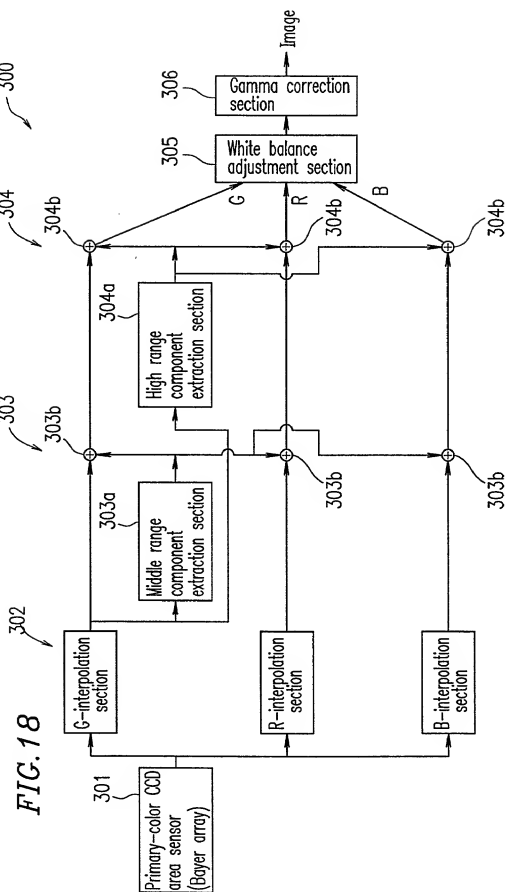
FIG.19
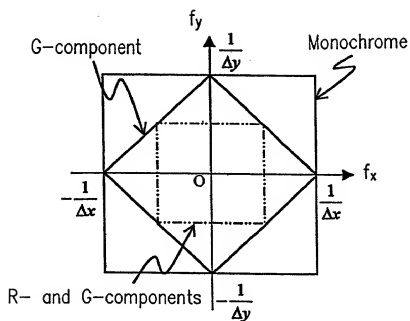
FIG.20
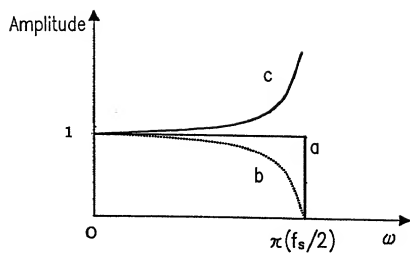
FIG.21
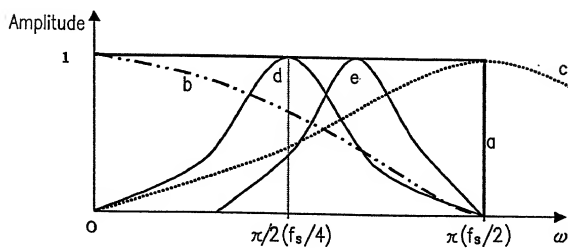
FIG.22

1/256	−3/256	10/256	10/256	−3/256	1/256
−3/256	5/256	−42/256	−42/256	5/256	−3/256
10/256	−42/256	64/256	64/256	−42/256	10/256
10/256	−42/256	64/256	64/256	−42/256	10/256
−3/256	5/256	−42/256	−42/256	5/256	−3/256
1/256	−3/256	10/256	10/256	−3/256	1/256